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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/628,234	07/29/2003	Masayoshi Yagyu	H&A-120	4759
7590 09/17/2004			EXAMINER	
Mattingly, Stanger & Malur, P.C. Suite 370 1800 Diagonal Road Alexandria, VA 22314			JONES, STEPHEN E	
			ART UNIT	PAPER NUMBER
			2817	

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,234

Applicant(s)

YAGYU ET AL.

Examiner

Stephen E. Jones

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/29/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of species I (Figs. 3A-3C and 4A-4E) in the reply filed on 8/26/04 is acknowledged.

Since all of the present claims read on the elected species, the restriction requirement is rendered moot.

Specification

1. The disclosure is objected to because of the following informalities:

On Page 4 (line 1) the description "1A to 1D" should read as --1A to 1C-- since "1D" does not exist.

Also on page 4 (line 12), the description "3A to 3D" should read as --3A to 3C-- since "3D" does not exist.

Appropriate correction is required.

Drawings

2. Figures 1A, 1B, 1C, 2A, 2B, 2C, and 2D should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the

examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding Claim 2, the phrase "said end surface of said first signal wiring pattern" lacks antecedent basis and is thus confusing as to what it is referring (e.g. claim 1 recites "an end surface of said first transmission line" but does not recite an end surface of the wiring pattern thus it is not clear whether the "said end surface" of Claim 2 is for the transmission line structure or the wiring pattern itself).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 and 5-9 (insofar as claim 2 could be understood) are rejected under 35 U.S.C. 102(b) as being anticipated by Sturdivant et al.

Sturdivant (Fig. 4) teaches an interconnect including: first and second coplanar transmission lines on respective dielectric substrates joined by a via conductor through

a hole near an end surface of the transmission line structure (Claim 5); and a conductor coats the ends and outer surfaces of the substrates (Claims 1, 3, 7); the distance between the end surface of the transmission line structure and the conductor of the end surface are in the same location thus the distance is less than $\frac{1}{4}$ wavelength (insofar as claim 2 could be understood); the two signal lines electrically contact each other through the via (Claim 6); and the conductor coating the end of the structure is perpendicular to the signal line and the ground conductors are connected together (Claim 8); and by the definition of an interconnect, devices are connected together by the interconnect structure. Also, regarding Claim 9, the phrase "such as" does not require the related limitations and is only considered as an example.

7. Claims 1, 3-5, and 7-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirabayashi.

Hirabayashi (Figs. 1 and 6) teaches a filter including: a connection structure having a transmission line (16) on a dielectric plate and another transmission line (stripline resonator transmission lines) (15) on another dielectric plate layer (Claim 5); the lines are connected together by a via hole (Claim 4); a conductor is disposed covering the end surface near the via connections (Claims 1, 7); the ground is disposed on both plates (Claim 3); and the conductor on the end surface is perpendicular to the line (15) (Claim 8).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sturdivant et al. in view of Kennedy et al.

Sturdivant teaches an interconnect as described above. However, Sturdivant does not teach that the first transmission line carries the device and wiring.

Kennedy provides the general teaching of an interconnect including a device and wiring included on a substrate layer of the interconnect.

It would have been considered obvious to one of ordinary skill in the art to have included the device being interconnected in the Sturdivant structure to be on the transmission line substrate (such as taught by Kennedy, because it would have

provided the advantageous benefit of a simplified device by reducing the number of mounting substrates required (i.e. otherwise the device would require a separate/additional mounting substrate), thereby suggesting the obviousness of such a modification.

Conclusion

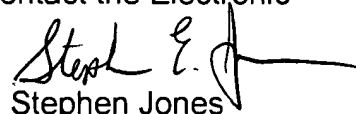
11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hamre teaches a circuit board interconnect.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen E. Jones whose telephone number is 571-272-1762. The examiner can normally be reached on Monday through Friday from 8 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Stephen Jones
Patent Examiner
Art Unit 2817

SEJ